# Department of Mathematics

## Sample Study Plan for Major in Quantitative Finance with Second Major in Data Analytics and Minor in Mathematics
## (For students matriculated in AY2021/2022 or after)

| Year 1 | | Year 2 | | Year 3 | | Year 4 | |
|---|---|---|---|---|---|---|---|
| Sem 1 | Sem 2 | Sem 1 | Sem 2 | Sem 1 | Sem 2 | Sem 1 | Sem 2 |
| HSA1000 Asian Interconnections  HSH1000 The Human Condition  HSI1000 How Science Works, Why Science Works  HSS1000 Understanding Social Complexity | | Scientific Inquiry II | Artificial Intelligence | Communities and Engagement | Interdisciplinary I | CS3244 Machine Learning | Interdisciplinary II |
| | | Digital Literacy (CS1010S) | DSA2101 Essential Data Analytics Tools: Data Visualisation | UE1 | DSA3102 Essential Data Analytics Tools: Convex Optimisation | QF4102 Financial Modelling and Computation | DSA4212 Optimisation for Large-Scale Data-Driven Inference |
| MA1100/MA1100T Basic Discrete Mathematics | DTK1234 Design Thinking | Writing (SP1541) | ST2132 Mathematical Statistics | CS2040 Data Structures and Algorithms | QF3103 Advanced Mathematics in Quantitative Finance | One of the following courses: QF4205, DSE4211, DSE4212 | QF4204 Project in Quantitative Finance and Fintech |
| MA2002 Calculus* | MA2001 Linear Algebra I** | DSA1101 Introduction to Data Science^ | MA2213 Numerical Analysis I | MA2101 Linear Algebra II | QF2103 Computing for Quantitative Finance | QF4103 Mathematical Models of Financial Derivatives | MA32xx |
| QF1100 Introduction to Quantitative Finance | MA2104 Multivariable Calculus | MA2116/ST2131 Probability* | QF2104 Fundamentals of Quantitative Finance | MA2108 Mathematical Analysis I | QF3101 Investment Instruments and Risk Management | ST3131 Regression Analysis | MA32xx# |

\* Double-counted between Major and Second Major | \*\* Triple-counted between Major, Second Major and Minor | ^ Satisfies the Data Literacy requirement

# Top-up necessitated by the triple counting of MA2001

Note:  1. To find out how HSA1000, HSH1000, HSI1000, HSS1000 are pre-allocated, click here.

2. Students have to complete all CHS Common Curriculum courses in their first two years except for the following 3 courses:
   - Communities and Engagement course – can be taken from Years 2 to 4
   - Two Interdisciplinary courses – can be taken in Years 3 and 4

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